



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,265	10/15/2001	Torsten Lorenz	420/50498	1078

23911 7590 05/11/2004

CROWELL & MORING LLP  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 14300  
WASHINGTON, DC 20044-4300

EXAMINER

ROSSI, JESSICA

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/976,265

Applicant(s)

LORENZ ET AL.

Examiner

Jessica L. Rossi

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 3/3/04, Amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/9/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. This action is in response to the amendment dated 3/3/04. Claim 7 is pending.
2. The rejection of claim 7 under obviousness-type double patenting as being unpatentable over claims 15-23 and 26-30 of copending application 10/373,107, as set forth in paragraph 8 of the previous office action dated 12/17/03, has been withdrawn because the '107 application went abandoned.

### *Claim Rejections - 35 USC § 103*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 7 **stands** rejected under 35 U.S.C. 103(a) as being unpatentable over Prevorsek et al. (US 5677029; of record) in view of Hartman et al. (US 5006293; of record), as set forth in paragraph 5 of the previous office action.

With respect to claim 7, Prevorsek is directed to making ballistic resistant fabric articles, such as body armor (abstract; column 1, line 10). The reference teaches alternately placing layers of cut dry fiber 14a-14e (column 5, line 42; column 3, lines 44-49) and thermosetting polymer layers 16a-16e (column 13, lines 1-2; column 14, line 25; column 3, lines 44-49) with predetermined shapes (column 12, lines 1-7) on top of each other to initially form a bonded fabric. The reference teaches molding the fabric and polymer layers by subjecting the same to heat and pressure (column 22, lines 1-6) wherein the skilled artisan would have readily appreciated that such would only be possible with the aid of some type of working surface.

The reference teaches the shapes of the polymer layers ensuring bonding in overlapping areas of inner cut semi-finished fabric layers and cut semi-finished fabric layers that form outer sides of the fabric article (Figure 4; column 12, lines 1-13; column 22, line 51 – column 23, line 5). The reference teaches providing local recesses (i.e. slits/perforations) in the polymer layers in order to maintain the flexibility of the article after bonding of the fabric and polymer layers (column 12, lines 58-63). It is noted that the present invention is also directed to making an article comprising alternating fiber and polymer layers wherein the polymer layers bond the fiber layers together and recesses are formed in the polymer layers (p. 9, [0022]); therefore the skilled artisan would have appreciated that the recesses of Prevorsek would also minimize shearing stress between the fabric layers during bonding/molding.

The reference teaches curing the composite formed by the fabric and polymer layers to form the finished article (column 13, lines 6-10; column 22, lines 1-6).

**The reference is silent as to the working surface having a separating foil as a carrier for the fabric. It would have been obvious to provide the working surface with a release/separating film because such is known in the ballistic resistant article art, as taught by Hartman (column 8, lines 40-55), and this prevents the finished product from sticking to the surface thereby allowing for easy removal therefrom. It is noted that the release film of Hartman has been equated to Applicant's separating foil, especially since a foil is also a thin piece of material that does NOT have to be metallic (Webster's Dictionary) and especially since the present invention fails to disclose any specifics regarding the foil (p. 13, lines 3-5).**

However, even if it is not taken that the release film of Hartman is a foil, selection of a particular release material would have been within purview of the skilled artisan at the time the invention was made depending on the materials used for the fiber sections and polymer layers placed upon the release material; it being noted that the present invention places no criticality on the type of release material.

5. Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Prevorsek et al. in view of Hartman et al., Harpell (US 5175040; of record), and Sloman (EP 233700; of record), as set forth in paragraph 6 of the previous office action.

With respect to claim 7, Applicants are directed to paragraph 5 above for a complete discussion of Prevorsek and Hartman.

It is noted the examiner interpreted the reference to mean that the fabric layers were cut fabric layers. If such is not taken as the case, it is known in the ballistic resistant article art to provide a plurality of fabric/prepreg layers by cutting a continuous supply of fabric into discrete layers followed by stacking the discrete layers and molding them to form the preform, as taught by Harpell (column 1, lines 14-15; column 8, lines 28-30 and 48-66; column 9, lines 32-33). Therefore, it would have been obvious to the skilled artisan at the time the invention was made to provide the fabric layers of Prevorsek by cutting a continuous supply of fabric because such is known in the art, as taught by Harpell, and this expedites the manufacturing process.

It is also noted that the examiner interpreted the Prevorsek reference to mean that molding of the fabric and polymer layers takes place on some type of working surface. If this is not the case, it would have been obvious to use a working surface because such is known in the ballistic resistant article art, as taught by both the prior art referred to by Sloman (p. 3, lines 27-

Art Unit: 1733

29) and Hartman (column 8, lines 40-56), wherein this allows for shaping of the layers into a desired configuration during the curing step.

*Response to Arguments*

6. Applicant's arguments filed 3/3/04 have been fully considered but they are not persuasive.

7. On page 2 of the Arguments, Applicant argues that the examiner's assertion that the skilled artisan would have readily appreciated that the layers of Hartman must be subjected to the heat and pressure on some type of working surface is incorrect because the reference does not discuss any working surface.

The examiner maintains that one skilled in the art reading the Hartman reference as a whole would have appreciated that the layers must be formed on some type of a working surface and invites Applicant to reread the rejection set forth in paragraph 4 above. However, even if Applicant's argument is valid, the examiner invites Applicant to reread the rejection set forth in paragraph 5 above where ample motivation was provided to place the layers of Hartman on top of a working surface.

8. On page 2 of the arguments, Applicant argues that Hartman teaches a release film and therefore fails to teach a separating foil.

As set forth in paragraph 4 above, the release film of Hartman has been equated to Applicant's separating foil, especially since a foil is also a thin piece of material that does NOT have to be metallic (Webster's Dictionary) and especially since the present specification fails to disclose any specifics regarding the foil (p. 13, lines 3-5).

Art Unit: 1733

However, even if it is not taken that the release film of Hartman is a foil, selection of a particular release material would have been within purview of the skilled artisan at the time the invention was made depending on the materials used for the fiber sections and polymer layers placed upon the release material; it being noted that the present invention places no criticality on the type of release material.

9. On page 3 of the arguments, Applicant argues that Sloman and Harpell both fail to teach a separating foil.

The examiner points out that Sloman was only used to show that it is known in the ballistic resistant article art to mold fabric and polymer layers on a working surface. The examiner also points out that Harpell was only used to show that it is known in the ballistic resistant article art to provide a plurality of fabric/prepreg layers by cutting a continuous supply of fabric into discrete layers followed by stacking the discrete layers and molding them to form the preform.

#### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1733

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica L. Rossi  
Patent Examiner  
Art Unit 1733



JEFF H. AFTERGUT  
PRIMARY EXAMINER  
GROUP 1300